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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,718	11/10/2000	Cecilia Gabriela Galarza	001340.P077	5436

7590

07/19/2004

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EXAMINER

JUNG, MIN

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 07/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/710,718

Applicant(s)

GALARZA ET AL.

Examiner

Min Jung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-51,55,56,58 and 59 is/are allowed.
- 6) ☒ Claim(s) 1-14,52-54,57 and 60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/19/01  
9/28/01  
2/26/02  
4/14/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: At pages 15, 17, 32, 37, and 38, related application data needs to be completed. At page 34, line 20, "Figure 19" should be changed to ----Figure 12----.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14, 52-54, 57, and 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear how the objective stated in the preamble is achieved by performing the recited steps; i.e., it is not clear how the collective steps of "acquiring---", "determining----", "determining----", and "estimating----" identify crosstalk sources. It seems that functional tie (functional limitation) between the preamble and the steps are required to make the claim definite. Further, it is not clear whether the "source" means a physical source (such as location) or functional source (such as noise, crosstalk, etc.). It is also not clear if the method is indeed a method for identifying crosstalk sources, or if it is for identifying interference sources. Further, it is not clear what exactly is meant by

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“signals”; does it mean “signal streams”, “data channels” (main signal), “disturbance signal”, or something else? It is further unclear when the ‘signal’ is recited in the context of “each of the signals”; does it mean ‘each bit’, ‘each frame’, ‘each channel’ (‘each frequency channel’ or ‘each time channel’), ‘each disturbance signal’, ‘each main signal’, ‘each signal stream’, or something else? Further, how do you determine a frequency for each signal? Is it implying that multiple channels occupy different bands of frequency? The same kind of question arises for the baud rate determination for “each of the signals”.

In claims 52, 57, and 60, it is not clear how the objective stated in the preamble is achieved by performing the recited steps; i.e., it is not clear how the collective steps of “acquiring---”, “dividing----”, and “performing----” identify interference source. It seems that functional tie (functional limitation) between the preamble and the steps are required to make the claim definite. Further, it is not clear what is being divided into what; is the communication signal divided into a plurality of frequency regions? If so, then what does it mean (is it the bandwidth of the signal that is being divided)? How is “a plurality of frames” tied to the “communication signal” and the “frequency regions”? Further, it is not clear what exactly is meant by “signals”; does it mean “signal streams”, “data channels” (main signal), “disturbance signal”, or something else? Further, it is not clear what is meant by “performing an average of the plurality of frames”; does it mean that the frame length is averaged, as described in the specification? And again, it is not clear how this final step perform identification of an interference source. It

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seems that claims need to be further defined to outline the invention described in the specification in a meaningful way.

***Allowable Subject Matter***

4. Claims 1-14, 52-54, 57, and 60 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.
5. Claims 15-51, 55-56, and 58-59 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fail to teach or fairly suggest a method for identifying crosstalk sources and interference source, comprising: acquiring a collection of aggregated disturbance signals; determining a frequency regions containing disturber energy contributed by the aggregated disturbance signals; determining a baud rate for each of the disturbance signal; performing co-channel identification; and estimating a channel impulse response for each of the aggregated disturbance signal.

Prior art also fail to teach or fairly suggest a method of characterization of an interference source of a communication signal, the method comprising: characterizing the interference source by determining the interference source signal type; estimating the interference signal transmission rate by searching for periodic frequency regions of the communication signal using a sequence of known symbols of the communication signal (or by performing a frequency zoom

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in analysis of the communication signal for detecting harmonic components of the communication signal for each of the plurality of frequency regions); performing a service type identification; and estimating a channel impulse response of the interference signal.

### ***Information Disclosure Statement***

7. The information disclosure statement filed September 28, 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hamilton et al. Patent, the Huang et al. Patent, the Pukkila et al. patent, the Chen et al. patent, the Dagdeviren et al. patent, the Zangi patent, and the McGhee et al. patent, are cited for further references.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 703-305-4363. The examiner can normally be reached on Monday-Friday, 7AM-3PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ  
July 12, 2004



Min Jung  
Primary Examiner